

Quiz Tomorrow:

- Concepts
- Problems: $T = \frac{1}{f}$, $v = \lambda f$
- Wave Combinations

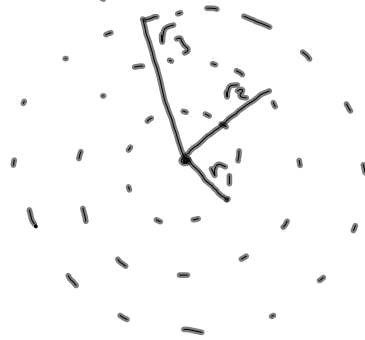
Sound:

- Pitch: perceived frequency of sound

how high or low something sounds

- Intensity: how loud a sound is

treat sound sources as point sources



Circles on the board, but actually spheres

$$I_1 > I_2 > I_3$$

$$I = \frac{\text{power}}{\text{area}}$$

$$= \frac{P}{4\pi r^2}$$

↳ intensity ↳ distance from the source

- Speed of sound depends on the medium in which the sound travels

- Intensity is measured in W/m^2
 - Sound scale we use is decibels, and this measures relative intensities
 - Log scale

$$1 \text{ E-}12 \text{ W/m}^2 = 0 \text{ dB}$$

$$1 \text{ E-}11 \text{ W/m}^2 = 10 \text{ dB}$$

$$1 \text{ E-}10 \text{ W/m}^2 = 20 \text{ dB}$$

$$1 \text{ E} 0 \text{ W/m}^2 = 120 \text{ dB}$$

- Two conditions to hear a sound:
 1. Frequency
 2. Intensity

